

Cost Benefit Analysis for APCHAND MEDIUM IRRIGATION PROJECT

On the basis of Guidelines for forest land diversion 2018

**Table-A Cases under which a cost benefit analysis for forest
diversion are required**


No.	Nature of proposal	Applicable/not applicable	Remarks
1	All categories of proposals involving forest land up to 20 hectares in plains and up to 5 hectare in hill	Not applicable	
2	Proposal for defense installation purposes and oil prospection (prospecting only)	Not applicable	
3	Habitation, establishment of industrial units, tourist lodges complex and other building construction	Not applicable	
4	All other proposals involving forest land more than 20 hectares in plains and more than 5 hectares in hills including roads, transmission lines, minor, medium and major irrigation project's mining activity railway lines, location specific installations like microwave station, auto repeater centres, TV towers etc.	Applicable	These are cases where a cost benefit analysis is necessary to determine when diverting the forest land to non-forest use of overall public interest. The Apchand Medium Irrigation Project falls under this category.

Table-B Estimation of cost of forest diversion


No.	Nature of proposal	Remark
1	Ecosystem services losses due to proposed forest diversion	Ecosystem services due to diversion of forest land suggested by the Central Powered Committee as per the forest classification report of proposed Apchand Medium Irrigation Project is Rs.9.58 Lakh/Ha Cost of Land:= $182.16 \times 9.58 = \text{Rs.}1745.09 \text{ Lakh.}$
2	Loss of animal husbandry productivity, including cost of fodder.	As per the cost benefit guideline i.e 10% of N.P.V. 0.958 Lakh per Ha. = $182.16 \times 0.958 = \text{Rs. } 174.51 \text{ Lakh}$
3	Cost of human resettlement	There is no human settlement due to the proposed Apchand Medium Irrigation Project.Hence the cost of human resettlement is NIL.
4	Loss of public facilities and administrative infrastructure (Roads, building, schools, dispensaries, electric lines, railways, etc.) on forest land, which would require forest land if these facilities were diverted due to the project.	There is no loss of public facilities and administrative infrastructures of forest land due to construction of Apchand Medium Irrigation Project, no cost has been added on this account.
5	Possession value of forestland diverted.	The possession value of forestland diverted is taken 30% of the N.P.V. due to loss of forest i.e 2.87 Lakh / Ha. = $182.16 \times 2.87 = \text{Rs } 522.80 \text{ Lakh}$
6	Cost of suffering to oustees	Not applicable
7	Habitat Fragmentation Cost	While the relationship between fragmentation and forest goods and services is complex, for the sake of simplicity the cost due to fragmentation has been pegged at 50% of NPV applicable as a thumb rule. Hence, 50% of N.P.V.= 4.79 Lakh per Ha. = $182.16 \times 4.79 = \text{Rs. } 872.54 \text{ Lakh}$
8	Compensatory afforestation and soil & moisture conservation cost	The cost @ Rs 4.00 Lakh per Ha. is taken compensatory afforestation and soil moisture conservation Hence amount will be: = $182.16 \times 4.00 = \text{Rs.}728.64 \text{ Lakh}$
9	Total cost due to forestland diversion.	Total cost due to forest land diversion for Apchand Medium Irrigation Project in lakhs will be: = $1745.09+174.51+522.80+872.54+728.64 = 4043.58 \text{ Lakh}$

APCHAND MEDIUM IRRIGATION PROJECT
COST BENEFIT ANALYSIS

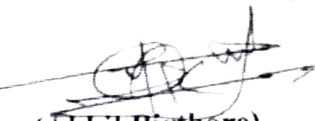
Total Cost due to forest land : 4043.58 Lakhs
Total Benefit due to Project : 4742.25 Lakhs
Benefit Cost Ratio of the Project : 1.172



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